

U. S. CHEMICAL SAFETY AND HAZARD INVESTIGATION BOARD

**Written Testimony of
The Board Members
Presented by
Gerald V. Poje, Ph.D., Member**

<http://www.chemsafety.gov>

**Presented Before the
Subcommittee on HUD, VA and Independent Agencies
Committee on Appropriations
United States House of Representatives
Washington, DC**

March 2, 2000

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Mister Chairman, Representative Mollohan and other Distinguished Members of the Subcommittee:

I am honored to come before you today representing my fellow board members in support of the U.S. Chemical Safety and Hazard Investigation Board's (CSB, or the Board) Fiscal Year 2001 appropriations request. Seated at the table with me are my colleagues on the Board, Dr. Paul L. Hill, Jr., Dr. Isadore Rosenthal and, Dr. Andrea Kidd Taylor. My comments are those of the full Board.

In Fiscal Year 2001, the CSB is seeking an appropriation of \$9 million, which represents an increase of one million dollars over our FY 2000 appropriation.¹ This amount represents the funding necessary for the Board to maintain a stable operating program and perform a modest number of incident investigations. It will also allow the Board to evaluate and revise its incident selection criteria, investigation protocol, and procedures for tracking recommendations. In addition, the Board will be able to initiate one safety study to complement its investigation and related activities. Finally, the increase will permit the Board to conduct monthly public meetings and hire two additional staff members in its Office of Investigations and Safety Programs.

In this testimony, the CSB will present how it plans to responsibly move forward to provide value to the public in contributing to the prevention of chemical incidents and minimization of their effects, and how it has worked towards fulfilling its mission, including its successes and struggles in this regard.

¹ As stated in its enabling statute, the Board, as an independent agency, is authorized to submit its own budget request directly to the Congress, simultaneously transmitting a copy to the Executive Branch.

HUMAN AND FINANCIAL COSTS OF INCIDENTS

The mission of the Board is no less critical now than it was in 1990 when it was first created in legislation. Chemical incidents are costly both in economic and human terms. According to a recent study by the Wharton Center for Risk Management and Decision Processes,² of 14,500 facilities that filed risk management plans in 1999 under the EPA's new Risk Management Program (RMP) rule 1,145 of these facilities (7.9%) reported 1,913 major chemical release accidents over the five-year period from June 21, 1994 through June 20, 1999.³ A total of 1,897 injuries and 33 deaths to workers/employees and 141 injuries and 42 deaths to non-employees resulted from these incidents. We note that 58 of the injuries and 30 of the deaths among non-employees were to public emergency responders.

Members of the insurance industry have recently estimated *direct losses from chemical releases within the purview of the CSB* as being about *\$1 billion per year*.

This information was presented at a Roundtable meeting sponsored by the National Safety Council on October 6, 1999. Discussion by business members after this presentation noted that neither retained company losses (deductibles), losses by companies that were self-insured, or indirect losses were included in this total. If such losses were taken into account the number would be conservatively estimated at least *three to four times larger* or *three to four billion dollars annually*. Independent analysis by another insurance company after the October 6th meeting confirmed these loss estimates.⁴

REFOCUSING ON THE BOARD'S MISSION

Just under two months ago the Chairman and Chief Executive Officer of the Board resigned his position. This change in management represented an opportunity for the Board to refocus its vision, structure, and mode of operation to achieve its mission. As part of the effort, the Board is reassessing the manner in which it both defines and performs its mission, and concurrently is implementing changes derived from such evaluations.

² P. Kleindorfer, H. Feldman, and R. Lowe. Accident Epidemiology and the U.S. Chemical Industry: Preliminary Results from RMP*Info. Working Paper 00-01-15. Center for Risk Management and Decision Processes. The Wharton School, University of Pennsylvania. Philadelphia, Pennsylvania. 1999.

³ The RMP rule covers a wide range of industries including chemical manufacturing, petroleum refining and processing industries, agriculture, pulp and paper mills, food processors, warehouses, and water treatment plants. Facilities are required to submit a risk management plan for processes that fall in one of the covered SIC codes and if the process contains a threshold quantity of one of the regulated toxic or flammable chemicals listed in 40 CFR §68.130, Regulated Substances for Accidental Release Prevention.

⁴ A paper on this work will be presented publicly at an international conference sponsored by the Center for Chemical Process Safety (CCPS) meeting in October of this year.

As one of the first steps towards evaluation and improvement, the Board reviewed the mission statement that was created when we began operations in January 1998. The Board considered this evaluation a priority since this statement drives the strategic planning and functional structure of the Board. In revising the mission statement, the Board strove for greater precision in describing its purpose and authority.

The new statement, based on our statutory mandate, is:

MISSION STATEMENT

The mission of the U.S. Chemical Safety and Hazard Investigation Board is to enhance the health and safety of workers and the public and to protect the environment by uncovering the underlying causes of accidental chemical releases and using these findings and supporting research to promote preventive actions by both the private and public sectors.

HOW THE MISSION IS ACCOMPLISHED

- Conduct state-of-the art investigations of carefully selected major incidents involving the accidental release of hazardous chemicals.
- Produce high quality, easy-to-read, and timely investigation reports that identify the root and contributing causes of these incidents.
- Conduct hazard, safety and data studies designed to complement CSB investigation report and recommendation activities.
- Issue well-reasoned and precisely targeted recommendations.
- Conduct effective advocacy activity for these recommendations.⁵

BOARD'S MISSION SUPPORTED

We are pleased to report that key stakeholder representatives have issued public statements of support at Board public meetings in December and January. Among those speaking in support of the CSB mission were the American Petroleum Institute, the Chemical Manufacturers Association, the National Association of Chemical Distributors, The Chlorine Institute, the International Union of Operating Engineers, Environmental Defense (formerly the Environmental Defense Fund), and the Working Group on Community Right-to-Know.

⁵ Mission statement adopted by notation vote of the Board on February 4, 2000

We heard and appreciate these expressions of support, but we also took seriously the accompanying statements urging the Board to move beyond its governance dispute to refocus its energies on its mission.

PREVENTING INCIDENTS THROUGH SCIENTIFIC WORK

The purpose of the CSB's investigation of incidents is to prevent future similar events. We do this by focusing scientific scrutiny on the incidents and all of the circumstances preceding them, not merely on laws that may have been broken. We must be familiar not only with the technologies and human factors that apply today, but those that are just emerging or that may be on the horizon. Because the CSB has no enforcement powers, it must conduct an effective advocacy program to generate support for its recommendations and in so doing enhance chemical safety.

Prevention of chemical accidents, then, requires the careful application of resources to the conduct of quality scientific investigations, formulation of sound safety recommendations, and effective advocacy in support of them.

FY 2001 APPROPRIATIONS REQUEST PROPOSES SLIGHT INCREASE

The Board's budget request for FY 2001 is \$9,000,000. This represents a 12.9 percent increase over its FY 2000 appropriation of \$7,969,600. This amount represents the funding necessary for the Board to maintain a stable operating program and perform a modest number of incident investigations. It will also allow the Board to evaluate and revise its incident selection criteria, investigation protocol, and procedures for tracking recommendations. In addition, the Board will be able to initiate one safety study to complement its investigation and related activities. Finally, the increase will permit the Board to conduct monthly public meetings and hire two additional staff members in its investigation and safety office.

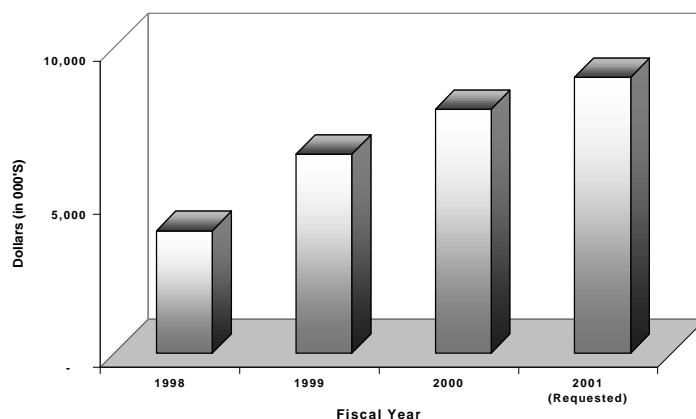


Figure 1, CSB Appropriations, FY 1998 through FY 2001 (Requested)

The requested FY 2001 budget represents a forward-looking vision that recognizes the Board's responsibility to create and demonstrate its value to the public consistent with its mission of enhancing chemical safety. The FY 2001 Budget Justification that was submitted to this Subcommittee last month includes a frank assessment of the CSB's performance to date and the lessons that have been learned from our successes and failures. It also discusses how the CSB plans to implement those lessons and meet current challenges to ready itself for taking on the important tasks identified for FY 2001.

As you examine our FY 2001 budget request you will see that it precisely tracks our restated objectives and priorities. The emphasis is on funds and personnel necessary for the conduct of investigations and safety program activities. This emphasis began this year, and is carried forward in our FY 2001 budget request.

Specifically, in FY 2001 we propose devoting 19.2 workyears and just under \$4.2 million for incident investigation and related activities. This compares with 10.7 workyears and just under \$2.5 million in FY 1999.

A similar increase in Special Safety Studies and Technical Guidance is proposed in FY 2001, where 4.1 workyears and \$670,000 is proposed, compared to one workyear and \$284,000 in FY 1999.

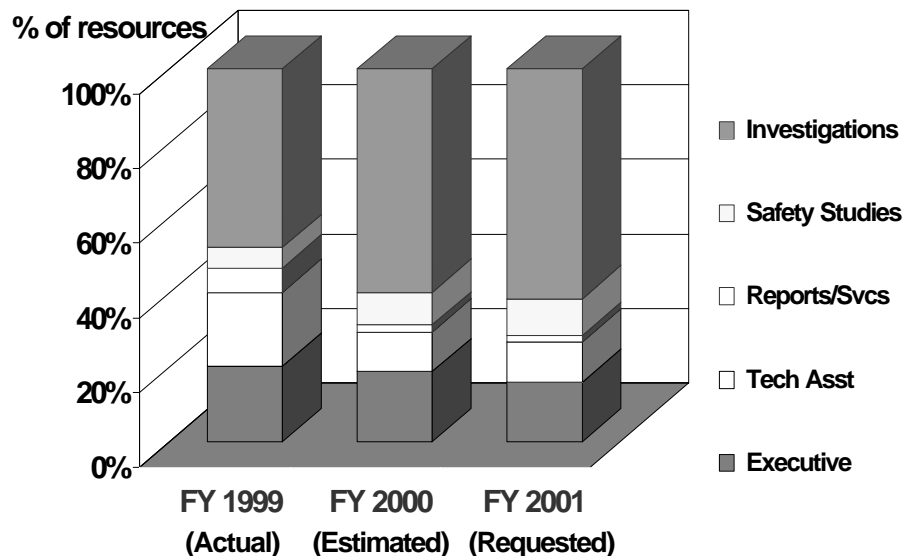


Figure 2, FY 2001 Resources Shifted to Investigations and Safety Studies

We have also decreased the resources devoted to areas not directly supporting the conduct of investigations in the area of technical information and assistance from 4.1 workyears and slightly over \$1 million in FY 1999 to 2.7 workyears and \$730,000 in FY 2001.

FY 2001 ANNUAL PERFORMANCE PLAN

The CSB is in the process of developing a strategic plan that will describe in detail the goals, objectives and performance measures that will help it attain this goal. In the interim, the CSB released an Annual Performance Plan that describes how the CSB will make progress toward its long-term goals in FY 2001. The plan sets forth two strategic goals as follows:

STRATEGIC GOAL 1 – To reduce the reoccurrence of chemical incidents addressed by the Board and minimize the adverse effects on life, health, and property.

Accomplishing the Board's mission depends on the development and application of state-of-the art investigative procedures, well-reasoned and precisely targeted recommendations, production of timely investigation reports, design and completion of complementary safety studies, and interaction with the professional and technical organizations involved in the prevention of accidental chemical releases. Investigative and research efforts need to be focused on those opportunities that will provide the greatest benefit to chemical incident prevention strategies across the broad spectrum of chemical users. As a new investigative agency, development and implementation of our processes and procedures will require ongoing evaluation and improvement to ensure that the resources provided are justified and give value to the public.

Performance goals under this strategic goal include the initiation of four major chemical incident investigations, issuance of two final investigative reports, completion of one safety study, and delivery of at least two technical papers at scientific meetings and/or symposiums involving the leading organizations in the chemical accident prevention arena. In addition, the Board will participate on at least two technical committees involved in the continuous improvement of chemical accident prevention in areas such as incident investigation techniques, chemical process safety, human factors of accident causation, and inherently safer technology.

STRATEGIC GOAL 2 – To be a progressive 21st century federal agency, which facilitates the accomplishment of the Board's mission.

The Board believes that, if best management practices are emphasized every day throughout every activity, then a professional, efficient, and effective atmosphere will exist where our other program goals can be accomplished. Good management practices dictate that the organization be well run, competent, technically accurate, flexible, and timely, to ultimately benefit both the employees and the taxpayers.

Performance goals under this strategic goal include attracting and keeping the best and brightest employees, and reducing the time it takes to hire staff and maintain a

professional workforce, and promulgating federally required administrative regulations and complying with other legal obligations in administrative areas.

POTENTIAL CONSTRAINTS ON ACHIEVING CERTAIN FY 2001 GOALS

Infrastructure. The Board began operations in FY 1998 and anticipated a three-year start-up period. However, limited resources were available for establishing the infrastructure. As a result, the Board projects that at current levels of funding it will not be fully operational for a number of years. Board staff will have to promulgate proposed final regulations, finalize interagency coordination memoranda of understanding (MOU) with other government agencies, evaluate and finalize internal operating procedures, and conduct strategic planning for future program emphasis and resource requirements.

Personnel. Although the Board will focus on personnel management efforts in FY 2000, the Board may not be able to hire and train all the investigation and safety program staff as planned for FY 2000. Some of the hiring and training activities may continue into FY 2001, and may affect the expected workload in the investigation and related activities function.

Recruiting and hiring qualified investigations and safety programs staff remains one of the Board's most difficult challenges. The small talent pool available for the Board's recruitment needs is primarily found in the oil and chemical-process industries. These potential recruits are highly paid and typically live in areas located far from Washington, DC. The Board, therefore, must now devote extensive time and resources to recruit in order to hire and retain staff with chemical-process safety expertise.

Capacity to conduct investigations of catastrophic incidents. Because of the difficulty in hiring adequate numbers of qualified technical personnel this fiscal year, the Board likely will not possess adequate resources to launch a new investigation of a major catastrophic chemical incident. Examples of catastrophic chemical incidents are the 1984 chemical release in Bhopal, India, that killed 4,000 within days, and killed or injured thousands of others in subsequent years, or the 1989 petrochemical explosion in Pasadena, Texas that killed 22 and injured more than 80 persons. The total commitment of existing resources, and the acquisition of significant external resources, would be required to undertake such an investigation. Completion of FY 2000 and FY 2001 hiring plans and implementation of training plans will greatly bolster the Board's ability to meet this challenge.

WHAT THE RESOURCES WILL ACHIEVE THIS FISCAL YEAR

In FY 2000 we are concentrating our resources on building our safety and investigations staffs, refining our investigation process and procedures, formalizing training, aggressively recruiting qualified investigators, and limiting the number of new investigations undertaken to a more modest, realistic number. We will not ask for

significantly expanded fiscal resources until we can demonstrate the results that you, and we, are both seeking.

Following the leadership changes in January of this year the Board restated the Board's mission as a basis for restructuring its priorities this year and establishing a better foundation for its activities in FY 2001 and beyond. In directing more focused activities in FY 2000, the Board has adopted the following critical objectives in order to achieve its mission this fiscal year:

- Complete two investigation reports.
- Build capacity to launch two new investigations late in the fiscal year.
- Refine the incident investigation protocol and selection criteria for CSB investigations.
- Develop and implement a strategic hiring plan and recruit additional investigations and safety staff to ensure adequate resources to support its investigative work.
- Complete a staff-training plan.
- Initiate one new safety study.
- Complete the Board's Strategic Plan.

CAREFUL SELECTION OF INVESTIGATION PRIORITIES

Investigative and research efforts need to be focused on those opportunities that will provide the greatest benefit to chemical incident prevention strategies across the broad spectrum of chemical users. As a new investigative agency, development and implementation of our processes and procedures will require ongoing evaluation and improvement to ensure that the resources provided are justified and give value to the public.

In selecting the first two investigation reports to be completed this fiscal year, the Board has chosen those with the most significant safety lessons with wide future applicability. The incidents at Morton International Specialty Chemicals, Paterson, New Jersey, and Tosco Refinery, Martinez, California fit these criteria. The two investigations below allow the Board to pursue this strategy.

Morton International, Paterson, New Jersey: On April 8, 1998, an explosion and fire occurred at the Morton International Inc. plant in Paterson, New Jersey. The explosion and fire were the consequence of a runaway chemical reaction, which over-pressurized a 2000-gallon reactor and released flammable material that ignited. Nine employees were injured, two seriously, and the plant sustained considerable damage. Chemicals from the reactor were released into the neighborhood.

The Morton incident involved reactive chemicals. Reactive chemicals may be innocuous individually or at room temperature, but may react violently when combined with other

chemicals or when heated. Improper handling of reactive chemicals has been the cause of many chemical accidents. Two of the more significant incidents involving reactive chemical explosions in recent years include: the Napp Technologies, Inc. incident in Lodi, New Jersey, that killed five people and injured many others in 1995, and the Georgia-Pacific Resins, Inc. incident in Columbus, Ohio, that killed one worker and injured four others in 1997.

The CSB is examining the following safety issues in the Morton case:

- practices used by the chemical processing industry to evaluate the chemical reactivity of the materials it uses and produces
- design of industrial process equipment for the safe handling of chemical reactivity hazards
- process safety management tools used by industry to address the hazards of reactive chemicals

The CSB is currently finishing chemical testing which will complete its investigative effort. The draft Morton report will then be reviewed by other organizations that participated in investigations of the Morton incident. The CSB anticipates releasing the Morton investigation report by the early summer.

Tosco Refinery Fire, Martinez, California: On February 23, 1999, a fire occurred at the Tosco Avon Refinery in Martinez, California. Workers were attempting to replace piping attached to a 150-foot tall tower while the process unit was in operation. Process equipment had not been shutdown to perform the repair. During the removal of the piping, naphtha was released onto the hot fractionator tower where it ignited. The flames engulfed five workers located at different heights on the tower. Four were killed and one sustained serious injuries.

The piping contained flammable naphtha liquid that was not drained and purged before the work began. Piping was still connected to the system and under process pressure because a closed valve was leaking significantly.

The CSB is examining the following safety issues in the Tosco case:

- formal management decision protocol to assess when maintenance activities can be safely conducted without the shutting down of process equipment
- effective implementation of management oversight of process operations and maintenance activities involving hazardous chemicals
- effective implementation of process safety procedures for maintenance and operations
- consistent implementation of Management of Change procedures in mechanical corrosion control programs

The CSB is currently reviewing Tosco documentation, oil industry good practices and industry regulatory coverage to complete its investigative effort. When the draft Tosco report is completed, it will then be reviewed for factual accuracy by other organizations

that investigated the incident. The CSB anticipates releasing the Tosco investigation report by late summer.

NEW INVESTIGATION PROTOCOL AND SELECTION CRITERIA

As the Board builds the new foundation upon which to base its current and future activities, the full and open conduct of its business is one of its core strategies. Frequent public meetings will be an important part of the Board's operations. The first public meeting was held in December 1999, and subsequent meetings were held in January and February 2000.

An important part of maintaining public confidence in CSB investigations is the use of best practice methods in our Investigation Protocol and Incident Selection Criteria that are open to public review and scrutiny by all potential stakeholders.

In December 1999, the CSB completed the development of protocol documents that will be used to organize and direct investigation activities in the future. In our early investigative work, the CSB relied on a Department of Energy protocol that did not provide the focus on root cause analysis that is central to the CSB's mission. We will refine the protocol during FY2000 through reviews with CSB stakeholders and external experts on investigative practices

The CSB also worked with stakeholders in developing a process that, given the CSB's limited investigative resources, would identify incidents whose investigation would have the greatest potential prevention value. To stimulate stakeholder inputs, the CSB engaged the American Institute of Chemical Engineers' Center for Chemical Process Safety (CCPS) to develop and conduct a survey of industry stakeholders. The CSB also conducted an all-day Roundtable on this subject on November 9, 1999, attended by a wide range of stakeholders from labor unions, public interest groups, and government agencies. The CSB issued criteria for selecting incidents and plans to bring additional stakeholders into public discussion on the key issues to further refine the selection process.

FIRST TWO YEARS OF OPERATION

The CSB was created by the Clean Air Act Amendments of 1990. However, the Board was not funded, and did not begin operations, until January 1998. As the legislative history states: "The principle role of the new chemical safety board is to investigate accidents to determine the conditions and circumstances which led up to the event and to identify the underlying cause or causes so that similar events might be prevented."⁶

Significantly, when operations began in 1998 no personnel or other resources were inherited from other agencies. So, the first two years of the CSB's existence have been

⁶ Senate Rept. No. 101-228 (page 3615)

characterized by the significant challenges of initiating the operations of a federal agency where none previously existed. There have been notable successes, and, it must be admitted, time-consuming problems associated with our early development. But our focus has been, and will remain, on the prevention of serious chemical incidents through investigation, scientific study, and effective advocacy of prevention measures.

In an effort to quickly demonstrate that the Board was implementing its Congressional mandate, more investigations, incident reviews, and studies were initiated than could be effectively managed or brought to a timely conclusion. For example, in two years 11 major investigations were authorized, but to date reports have been issued for only three of these investigations. In addition, very substantial Board resources were initially devoted to activities that did not directly support the conduct and completion of investigations.

Under such circumstances and pressures, problems emerged. As a result, in its first two years the Board lost seven senior personnel.

BOARD GROWTH AND DEVELOPMENT

The Board's enabling legislation authorizes five Board Members appointed by the President, by and with the advice and consent of the Senate. One of the Board Members also serves as a Chairperson and Chief Executive Officer. For the first eleven months of operations, the Board only had two Members -- a Chairperson and one other Board Member. During this first year, the Chairperson exercised unilateral control over all aspects of the Board's operations. At the beginning of the second year, two additional Board Members joined the Board.⁷ However, all substantive Board decisions (except for voting on investigation reports) were still made solely by the Chairperson.

Several Board Members questioned this allocation of decision-making power, and the General Counsel was asked to render an opinion about the proper roles and responsibilities of the Board Members. In August 1999, the General Counsel issued a comprehensive memorandum explaining that, legally, the Board as a whole was to make most substantive decisions, while the Chairperson was responsible for day-to-day management and work assignments and implementing Board policy. In October 1999, three of the Board Members accepted the General Counsel's opinion, but the Chairperson requested further legal clarification before implementing the opinion. Over the next three months, a conflict with the other Board Members ensued on this issue. Ultimately, the Chairperson resigned his position, and the full Board has requested that the Department of Justice review the General Counsel's opinion. The full Board awaits that opinion. In the meantime, the full Board voted in January 2000 to allocate governing responsibilities among the four Board Members until a new Chairperson is appointed by the President, by

⁷ The Clean Air Act provides for a Board of five Board Members, one of whom is the Chairperson. At this time only four of the five Members are appointed. A fifth Board Member is needed to assist in the development of the Board.

and with the advice and consent of the Senate. Thus, all substantive decisions are now made by the full Board.

DISPOSITION OF OPEN INVESTIGATIONS

In addition, in the last year the previous management encountered a series of problems that hindered the Board from developing the institutional framework and processes necessary to ensure efficient and timely production of quality reports and other information. In particular, it encountered difficulties in obtaining an appropriate focus consistent with its limited resources. The Board started FY 1999 with three investigators, all hired at the end of FY 1998, and four major investigations⁸ and 14 reviews⁹ to complete. In the months leading up to March 1999, the Board proceeded to take on an additional six investigations and nine reviews. In March 1999 the Congress was notified that the CSB was unable to initiate any new investigations. The original vision of the Board had been to utilize contractors to help augment the Board's ability to complete investigation reports; however, difficulties in managing contractors undermined implementation of this concept.

Having over-committed its resources, the Board failed to meet commitments on a number of fronts, in particular in the completion of reports, in launching new investigations, and in establishing appropriate processes and policies for running an efficient and effective government agency. As a result, the Board started FY 2000 with eight on-going investigations.

In July 1999, the Board voted to reallocate investigative resources away from review cases to focus on the eight full CSB investigations. The review case concept was for the CSB to assess the results of investigations conducted by other organizations and publicize the safety lessons learned. The CSB believes that recommendations are better received and produce greater results when backed by the fully researched, full investigation findings in CSB major investigation reports.

BOARD'S CHEMICAL SAFETY ACHIEVEMENTS

Our struggles have been offset by significant successes and, of course, lessons learned. Our three completed incident investigation reports have been widely applauded for their scientific correctness, their readability and usability, and the applicability and practicality of their safety recommendations. Significantly, we can point to acceptance and use of the safety recommendations by state governors, legislators, trade associations, companies, and emergency responders, to name a few. So while we share the concern of others with the *quantity* of investigation reports, we also share the pride expressed in their *quality*.

⁸ The Board launched two additional major investigations during the month of October, 1998 making a total of six major investigations remaining to be completed as of the end of the month.

⁹ The Board initiated one additional incident review during the month of October, 1998 making a total of 15 incident reviews remaining to be completed as of the end of the month.

That quality is contributing to the enhancement of chemical safety, the prevention of chemical accidents and the fulfillment of our mission.

We have issued three investigation reports and each report has had a tangible impact, in some cases, because one or more recommendations in the report have been accepted and implemented. In many other cases, the reports have spawned educational efforts by other organizations to enhance the safety awareness of specific audiences.

- **CSB Report 98-001-I-NV, Sierra Chemical Company, Mustang, Nevada.** On January 7, 1998, two explosions in rapid succession destroyed the Sierra Chemical Company Kean Canyon plant near Mustang, Nevada, killing four workers and injuring six others.
 - Based on the Board's preliminary findings released at its Board of Inquiry, Nevada's Occupational Safety and Health Enforcement Section, which enforces federal safety regulations, increased the frequency of safety inspections at explosives facilities. An Executive Order signed by then-Governor Bob Miller on June 10, 1998, mandated safety inspections of explosives manufacturing facilities at least twice a year.
 - Furthermore, in May 1999 Nevada Governor Kenny Guinn signed four additional measures aimed at improving safety at facilities where hazardous substances are produced. Signed into law were four bills prompted by the Sierra Chemical Company incident: AB111, that requires employers to provide safety training to their workers in the workers' own language or by a videotape in a language they understand; AB173 and AB535 that both revise standards for regulating facilities where highly hazardous substances are produced, used, stored or handled; and AB 603 that requires a conditional use permit for the same facilities.
 - *Chemical Health and Safety* magazine, a publication of the American Chemical Society, featured the CSB's investigation report as its cover story in its January-February 2000 edition. The publication urged safety professionals to implement the safety recommendations made as a result of such root cause investigations. (See attached Exhibit A.)
 - The Hazardous Materials (HazMat) Training Department of the International Association of Fire Fighters (IAFF), a labor union representing more than 225,000 professional career fire fighters and emergency medical personnel, used the Board's report as an "interactive case study" on its Distance Learning website. The exercise requires the user to read a summary of the report and answer questions about responding to a "real-world" hazardous materials incident.
 - The Bureau of Alcohol, Tobacco and Firearms uses the report as a case study in its training program for recertification of explosive investigators.
 - The Institute of Makers of Explosives (IME), a recipient of Board recommendations, last month informed us that they are currently developing,

for approval by their Board of Governors, a set of training guidelines for employees engaged in the manufacture of commercial explosives. Their stated goal is to produce final training guidelines as an IME Safety Library Publication.

NITROGEN AND PROPANE INCIDENTS

- **CSB Report No. 98-05-I-LA, Union Carbide Corporation, Hahnville, Louisiana, March 27, 1998.** One Union Carbide worker was killed and an independent contractor was seriously injured due to nitrogen asphyxiation.
 - The Hazmat Training Department of the IAFF also used this report as an interactive case study on its Distance Learning website.
 - CSB met with the Confined Space Committee of the American Industrial Hygiene Association (AIHA) and has established an on-going process to discuss the less recognized risks associated with temporary confined spaces and the feasibility of adding warning properties to nitrogen used in confined spaces.
 - The Institution of Chemical Engineers (IchemE), based in the United Kingdom, requested and was granted permission by the Board to reprint this report for IchemE members.

- **CSB Report No. 98-007-I-IA, Herrig Brothers Farm, Albert City, Iowa.** Two volunteer fire fighters were killed and seven other emergency response personnel were injured.
 - In response to a CSB recommendation, the National Propane Gas Association improved their emergency response training materials to better address the hazards of BLEVEs, an especially dangerous type of explosion.
 - Also in response to a CSB recommendation, the Fire Service Institute of Iowa State University revised their training program to provide better guidance for responding to BLEVEs.
 - The report was used by a local volunteer fire department's safety officer to successfully challenge the placement of a 14,000-gallon propane tank 50 feet from a new high school and just 10 feet from a roadway. Using the report, and other information, the school board in Hagerman, Idaho, finally agreed that the community did not have adequate emergency responder personnel to effectively control the explosion that would result from such a large propane tank. The town instead decided to install a 2,000-gallon tank as a result.
 - A homeowner in Florida also found the report useful in helping to identify concerns about a propane tank planned for installation in his neighborhood.
 - A fire chief in Florida indicated that he was using the report (and the CSB's on-line reports of propane incidents) to prepare comments on proposed standards being considered by the National Fire Protection Association. Other emergency responders have indicated that the reported has contributed to

ongoing discussions about Boiling Liquid Expanding Vapor Explosions, known as BLEVEs, similar to the one featured in this report.

SPECIAL SAFETY STUDY INITIATIVE ON Y2K

At the request of the (Senate Special Committee on the Year 2000 Technology Problem), the Board led a multi-stakeholder special safety study initiative to build awareness of Y2K chemical safety problems. Among its efforts, the Board collaborated with the chemical industry, particularly small and medium-sized enterprises, warning them of the potential for Y2K-related computer problems that might lead to an accidental chemical release or inhibit automated safety protection and response systems. The Board also initiated diverse activities with Congress and a wide-range of stakeholders, including:

- Testifying before Senate hearings in Washington, D.C. and New Jersey
- Frequent interaction with the President's Council on Y2K Conversion, including presentation at a special roundtable on the chemical sector and a press briefing
- Issuing a Y2K safety alert to the Governors of the 50 states, Puerto Rico, Guam and the U.S. Virgin Islands
- Issuing safety alerts to emergency response organizations, including the International Association of Firefighters, the International Association of Fire Chiefs, the International Association of Emergency Managers, the National Emergency Management Association
- Development of a worker training initiative in partnership with the National Institute of Environmental Health Sciences (NIEHS) and the National Clearinghouse for Worker Safety & Health Training
- Working with a foundation and an academic research center to further characterize the vulnerabilities and status of smaller businesses
- Establishing a Y2K Chemical Safety information clearinghouse on the Board's web site

In June 1999 a working group consisting of the Board, EPA and eight trade associations produced and distributed a pamphlet entitled *Addressing Year 2000 issues in Small and Medium-Sized Facilities that Handle Chemicals*. [See attached exhibit B]

CHEMICAL SAFETY INFORMATION ON THE INTERNET

The CSB's website has proved to be an important avenue for reaching a large and diverse public audience. Few other websites are devoted solely to providing information on chemical incidents and chemical incident prevention. In 1999, *Government Executive* magazine named the site one of the 16 best federal websites.

The CSB website is intended to serve as a virtual library on chemical safety where safety experts and other stakeholders can do one-stop-shopping to learn more about particular aspects of chemical safety, from the very general to very specific technical works. The

Board updates the site daily with new information on chemical incidents, chemical safety publications from various sources, investigation news, links to other sites with chemical safety information, and events related to chemical safety. It also hosts the Chemical Incident Reports Center (CIRC).

The CIRC is a searchable online database of chemical incidents that is intended to enable or inspire actions by a researcher, a government agency or others in support of improving chemical safety. Throughout the day, every day, the CSB receives initial reports about chemical incidents that have occurred around the world. The information comes from the news media, eyewitnesses, companies and others. The sheer volume of incident reports received each day exceeds the investigative resources of the CSB or any other single organization. Yet, through the CIRC database, sharing knowledge of these incidents may make it possible for others to take actions that may contribute to improving chemical safety.

Mr. Chairman, Mr. Mollohan, and members of the Subcommittee: this morning we have shared with you a frank assessment of both the Board's accomplishments and problems to date. While admitting that mistakes have been made in the past two years, we have shown that we have both learned from past errors and have achieved significant accomplishments in fulfillment of the Board's mandate to help prevent accidental chemical releases and protect workers, the public and the environment.

We have charted a new course today, guided by *all* of the members of the Board, and supported by a professional staff. We have retained the support of key stakeholders, and we request the continued support of this subcommittee. We ask that rather than trust us, you track us as we implement a more focused set of objectives supported by a more disciplined allocation of resources.